

Appln. No. 10/048,013
Amd. dated June 11, 2007
Reply to Office Action of March 12, 2007

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (Currently amended). An *in vitro* process for increasing spermatozoa motility and separating the spermatozoa, comprising:

treating human seminal liquid comprising spermatozoa from an oligospermic, asthenospermic, teratospermic or oligoasthenospermic patient ~~for up to two hours~~ with an amount of 2-(4-morpholinyl)-8-phenyl-4H-1-benzopyran-4-one (LY294002), a phosphatidylinositol-3 kinase (PI3K) inhibitor, sufficient to increase spermatozoa motility, thereby increasing spermatozoa motility ~~during the up to two hours of treatment~~; and

separating the treated spermatozoa by spermatozoa separation methods used in assisted reproduction techniques (ART).

Claims 2 and 3 (Cancelled)

4 (Previously Presented). Process according to claim 1, wherein separating the spermatozoa is performed by a method

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selected from the group consisting of the wash and spin method, the sedimentation method, the direct swim-up method, the pellet and swim-up method, and the buoyant density gradient method.

5(Original). Process according to claim 4, wherein separating the spermatozoa is performed by the direct swim-up method.

Claims 6-8 (Cancelled).

9(Currently amended). Process according to claim 1, wherein spermatozoa are treated with an amount of ~~PI3K inhibitor~~ LY294002 in the range of about 0.01 to 1000 μM , about 5 to 500 μM , or about 10 to 100 μM .

Claims 10 and 11 (Cancelled)

12(Previously presented). Spermatozoa obtainable by the process according to claim 1.

Claims 13-18 (Cancelled)

19(Currently amended). Method of ART therapy, comprising treating the spermatozoa of claim 12 with LY294002, a phosphatidylinositol-3 kinase (PI3K) inhibitor.

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20 (Previously presented). Method according to claim 19, wherein ART therapy is selected from the group consisting of *in vitro* fertilization (IVF) gamete intrafallopian transfer (GIFT), and intrauterine insemination (IUI).

Claims 21-29. (Cancelled)